Wissenschaftszentrum
Nordrhein-Westfalen
Institut Arbeit
und Technik

Kulturwissenschaftliches
Institut
Wuppertal Institut für
Klima, Umwelt, Energie
GmbH

Raimund Bleischwitz

Governance of Sustainable Development

Towards Synergies between Corporate and Political Governance Strategies

Wuppertal Papers

No. 132 · August 2003
ISSN 0949-5266

NRW.

Wuppertal Institute for Climate, Environment and Energy
Factor Four Research Desk
Dr. Raimund Bleischwitz
Döppersberg 19
42103 Wuppertal

Tel.: 0202-2492-256
Fax.: 0202-2492-108
E-Mail: *raimund.bleischwitz@wupperinst.org*
http://www.wupperinst.org

Content

Abstract

The paper explores a framework for analysing governance towards sustainable development. Departing from the thesis about a possible positive role for corporate action, it refers to recent theorizing about both market and government failures. Discussing externalities, public goods, information and adaptation deficits, as well as bureaucracies' self-interest, corruption and "capture of the regulator, the paper stresses the importance of governance aiming at synergies between corporate and political governance. Concerning framework conditions, it outlines principles of regulated self-regulation. Following the thesis about a positive role, the paper adds recent insights about theories of the knowledge-based firm, which help to analyse market evolution. In this context, it outlines the concept of "responsible corporate governance". Because governance involves actors in their daily operations and certainly goes beyond setting a frame, the paper finally discusses innovation-inducing regulation, serving complementary functions to a framework and business operations. The conclusion is drawn that governments' main function is to facilitate learning processes, thus departing from states' function as known from welfare economics. Thus, governance will have to be explored as collective learning, involving business, governments, and civil societies' actors.

Zusammenfassung

Der Beitrag entwickelt einen Analyserahmen für einige Steuerungsfragen, die für eine zukunftsfähige Entwicklung relevant sind. Im Mittelpunkt steht die Suche nach Strategien zur Aktivierung von Unternehmen, Märkten und Zivilgesellschaft. Zunächst werden Theorien des Markt- und Staatsversagens analysiert; in beiden Bereichen erlaubt der Stand der Forschung eine Überwindung der Gegenüberstellung („hier der Markt, dort der Staat") und eine Hinwendung zu komplexeren Governance-Strukturen. Derartige Governance-Strukturen werden im Beitrag entwickelt. Das Papier erläutert das Anliegen einer regulierten Selbstregulierung. Es analysiert neuere Unternehmens- und Marktprozesstheorien und stellt Prinzipen einer verantwortlichen Unternehmensführung vor. Im letzten Abschnitt geht es auf verbleibende Politikspielräume ein, die unter den Stichworten „Aktivierung von Innovationen" und „responsive Regulierung" diskutiert werden. Die Schlussfolgerung lautet, dass Politik zunehmend als kollektiver Lernprozess analysiert werden muss, in dem Anreize für die dezentrale Wissensgenerierung durch private Akteure zu entwickeln sind. Funktionen des Staates, wie sie etwa noch in der Wohlfahrtsökonomie formuliert werden, werden dadurch zugunsten evolutorischer Ansätze relativiert.

1 Introduction

Though some pollution-related problems could be solved, environmental policies remain to be an important task towards sustainable development. Climate change, land use, management of waste and resource flows, etc. are some of the most challenging policy topics. They are challenging because

- Environmental science increasingly comes to a consensus about causes and effects;
- Potential disasters resulting from cumulated impacts cannot be excluded;
- The need for action is widely acknowledged;
- Any action taken needs to be coordinated among different policy fields and actors across local, regional, national, and international levels.

This paper starts from the assumption that the governance[1] to be undertaken differs from conventional approaches. This is partly because potential damage costs of global environmental change are immense and will require huge amounts of investments for mitigation and/or adaptation. In this context, the paper focuses on a new type of governance. Our paper poses the following thesis: governance of sustainable development goes well beyond traditional, state-centred policy-making because it aims at pro-active changes of individual actors' and firms' behaviours at different levels. By necessity, it must involve lower levels of policy-making and those actors in policy formulation and implementation. For reasons of outreach and power, corporate actors play a particular role. They can, as it is proposed, play a public role outperforming traditional profit-maximizing behaviour while doing good business on competitive markets. Our notion of responsible corporate governance not only accepts profit seeking in emerging markets for eco-efficiency and related areas, in fact it foresees it as a driving force towards sustainable development in those activities. Corporate actors create new markets for sustainable development that have previously been perceived as public domain. Along this perspective, the state keeps responsibility for setting and reforming framework conditions.

[1] Throughout the paper I shall define governance as the capacity of a country's institutional matrix (in which individual actors, firms, social groups, civic organizations and policy makers interact with each other) to implement and enforce public policies and to improve private sector coordination; see: Ahrens (2002: 128).

In order to test this thesis, this paper seeks to answer the following questions:

- What exactly is the function of governance systems for sustainable development?
- How do systems of political and corporate governance differ and how do they interact?
- What are the characteristics of a system that seeks to develop synergies between political and corporate governance?
- What conclusions can be drawn for policy makers assuming that corporate players might play a public role? What conclusion can be drawn for the role of the state?

Methodologically, this paper comprises recent theories from political science as well as from economics. Political science analyses governance systems with less governments (Héritier 2001; Young 1999; Sabatier 1999); economics offers findings on firms, market failures and regulatory theories (Shleifer 1998; Williamson 1999; Dixit 2000; Nelson 2002, Stiglitz 2000). The interdisciplinary approach is worthwhile because political science has a strong bond on administrations and policy-making, whereas economics seems advantageous in analysing markets and firms. The methodology derived from those theories partly departs from models of rational choice, i.e. it refers to specific models of bounded rationality and does not assume a fully rational actor with perfect information. In this paper these methodological issues will be made as explicit as possible. The emerging literature on "corporate governance" is here of special importance: assumptions about a firm's knowledge and its responsibility depend upon such a methodological framework. As will be noticed, the definition of this term is relatively broad and requires a precise understanding. Chapter 6 provides an explicit concept with principles, which is based upon recent developments in business analysis. Our line of argumentation goes as follows: After briefly referring to some advantages of markets (chap. 2), Chapter 3 and 4 deal with both market and government failures. Chapter 5 draws conclusions on governance as regulated self-regulation. In addition, chapter 6, 7 and 8 elaborate on how corporate actors, markets and more specific regulatory tools emerge.

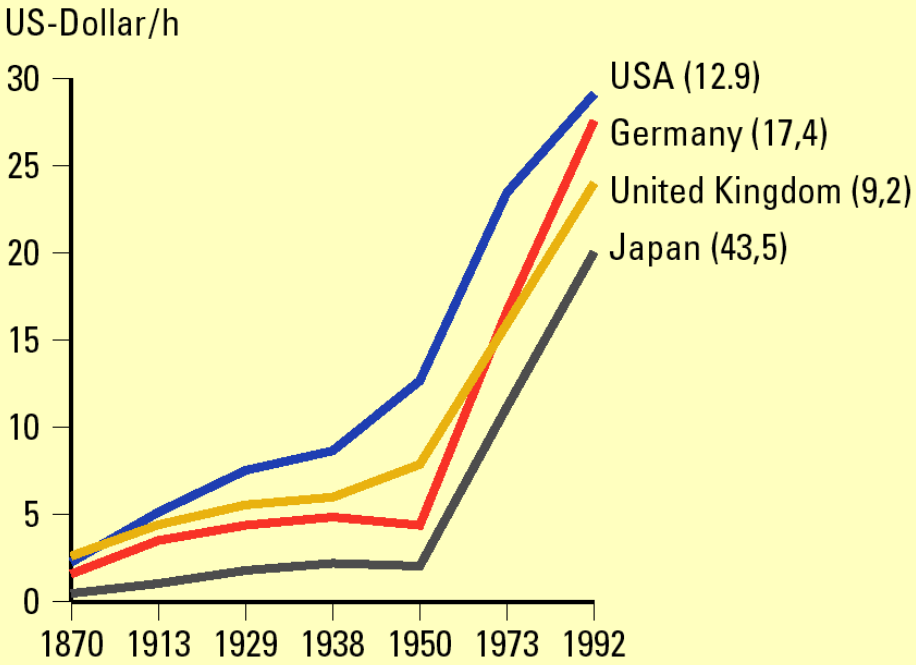
This paper fits well into a broader frame of policy research activities. It seems worthwhile referring to the Johannesburg Summit 2002, which has clearly addressed the need for a public-private partnership towards sustainability (called "Type II commitments"). Our analytical framework may well serve as toolbox towards evaluating these policies.

2 Markets are a Good Way to Organize Economic Activities

One can start analysing governance issues by referring to some obvious principles. Economists often claim that competitive markets are a good way to organize economic activities. This is certainly a good starting point for a more thorough analysis. Market's secret may be found in the "invisible hand" of demand and supply. Compared to ancient markets where personal relationships between sellers and buyers prevailed, modern markets are anonymous. Nevertheless, progress in terms of convenient products, higher incomes and better infrastructures are at hand. If one tries to imagine a world without washing machines, television, modern telecommunication, airplanes, PC's etc., one realizes how the world has changed since the beginning industrialization. This statement is not to deny that progress is overwhelmingly concentrated in the upper and middle classes, whereas large parts of population in developing countries and some parts in industrialized countries remain poor. But the point stands that markets are a powerful toolbox to bring forth technical change and societal progress in terms of increasing incomes and convenient products.

Historically, market forces of supply and demand have led to increased wealth in many countries. Labour productivity can be regarded as the engine of growth processes. It has been improved by a factor of 10 – 40 in different industrialized countries since the industrial revolution started. As workers are paid due to the value of their marginal product, average incomes have been raised in the same order of magnitude leading to higher standards of living than in previous years (Rosenberg, 1994; Maddison 1995). No doubt that these growth mechanisms have satisfied human needs with regard to quality of life in particular via better products, services and infrastructures. In addition, analysis on development underlines the necessity for education: good economic performance depends upon skills and Know how, both being the main determinants for productivity. These insights have been formulated and empirically proved by the so-called New Growth Theory.

Fig. 1: Labour Productivity Increase in Industrialized Countries 1870–1995



Between 1870 and 1992 labour productivity in industrialised countries has increased by a factor of 10 and even more. Why should an increase in resource productivity/ eco-efficiency be less successful?

Source: Maddison 1995

3 Market Failures and the Need for Governance

Why should one complain about markets as long as they provide products and services needed at low cost and as long as they can be regarded proper tools in making useful discoveries? Didn't markets reach a "commanding height", as Yergen and Stanislaw (1998) put it, where no alternative to that kind of organizing mechanism exists? This point of view is exactly the problem to be flagged here. Markets are dynamic and powerful, but imperfect. Markets work extremely well in regard to the provision of private goods for average, well-informed consumers. But they have some trouble when those convenient conditions do not exist or still have to be set up by any external authority. The following categories of market failures that depart from overall efficiency have been analysed extensively by research (e.g. Stiglitz 2000); recent fresh-ups will be referred to with regards to governance conclusions:

- The provision of public goods,
- Positive and negative externalities,
- Adaptation deficits,
- Information deficits,
- Natural monopolies.

Any market provision of *public goods* can be regarded difficult because their attributes of non-rivalries in use and non-excludability make any production unattractive. Once provided, everybody is able to enjoy the benefits without paying a fee for it (Olson 1965, Ostrom 1999). Usually therefore, the state has to play a role in providing the legal or financial framework for the production of public goods. National defence is a case in point, where living in a protected area has to be guaranteed by any national authority able to raise taxes that finance defence. By and large, this conceptualisation has been extended onto several other fields such as disaster relief, stability, and environmental protection.

There are some problems associated with the standard conceptualisation of public goods (Nelson 2002). Attributes may change due to technological progress; harbours and lighthouses illustrate such a conversion from a public to a private good due to technological improvements and better pricing possibilities. In addition, citizens may enjoy the benefits from public goods quite differently though they usually are taken as one aggregated unit. Preferences often are heterogeneous and change over time. Even in the case of national defence, one of the standard example for a pure public good, it is not likely that each inhabitant is prohibited at the same order of magnitude. This unequal benefit applies even more

with regard to environmental public goods. Earth's atmosphere yields differently favourable climate conditions in different regions. When climate change occurs, some may expect an improvement of their current condition. Citizens may also perceive the benefits of public goods quite different, in particular among different regions of the world. These observations lead to query the assumption of a fixed borderline between private and public goods; in fact the borderline is rather blurry.

The conclusion drawn from recent theorizing is as follows: Any governance structure has to develop mechanisms that accurately reflect the true demand for public goods over time in different regions, taking into account interregional and intergenerational fairness. Looking from this angle, governance comes closer to the people, to the rules of their interaction, and to market processes.

With the notion of *externalities*, economists refer to by-products of activities having negative or positive consequences that are not reflected in the prices. Environmental pollution is an obvious example for a negative externality. It too leads to the observation of private markets producing negative externalities whereas the society as a whole struggles with the impacts. Not all externalities can successfully be tackled with the program of Ronald Coase (1960) where a limited number of affected parties would be able to agree upon appropriate property rights, thus leading to an internalisation without governments. In many today's externalities, impacts are wide spread, the number of affected people is large, and producers are heterogeneous if not hard to identify. Globalisation truly extends these difficulties. Each of these criteria makes bilateral negotiations costly and ineffective; a demand for more general rules and an involvement of governments seems obvious. The more recent debate about internalisation of externalities clearly reflects such a demand (Stiglitz, 1998; Nelson, 2002; Young, 1999).

Again, there are some problems associated with the standard conceptualisation. Internalisation efforts may come at the expense of third parties that have not been involved in the formulation of policies. Governments do not act benevolently for mankind as a whole, but have to serve their respective voters and tend towards decision-making in favour of certain vested interest groups. The different schemes of an ecological tax reform, for instance, offer exemptions and postponements for certain industry groups. Some environmental fees protect domestic industries and are rather a barrier to trade with developing countries. This is not to deny that a second-best internalisation is better than doing nothing. But who cares for third parties if their voice is too silent? Another interesting topic in the area of externalities can be derived from uncertainties: there is usually no such thing as a clearly defined externality with certain damages, certain polluters, certain affected parties, and certain cost curves. Again, technological change matters seriously. Once more, any governance structure need to involve as many enterprises as possible and civil society's in their capacities to discover previously unknown

solutions, to raising voices, and to choosing among different internalisation strategies, lowering the transaction cost of search for measures to be undertaken. To put the message clear: the internalisation game to play involves small and medium-sized enterprises as well as civil society too, not only governments and big firms.

Our conclusion here is that markets needs to become embedded in a larger governance structure that balances different interests and allows for decentralized processes of solving internalisation puzzles. Any approach of "setting the framework conditions right", hence, needs to set incentives for continuous improvements emerging through learning processes among actors.

The category of *adaptation deficits* refers to the speed by which markets and firms adapt to new circumstances. While it is clear that adaptation always takes time and cannot be zero, real processes of change are sometimes extremely slow, may persist to improvements and lead to inefficient market structures via path dependencies. Some economists claim that enforcing competition on free markets is the ultimate force to overcome those adaptation deficits (Yergen/Stanislaw 1998). According to their analysis, adaptation deficits are caused by governments' interventions and by inappropriate institutions, not by markets as such. But such an analysis seems too easy. Firms usually specialize and may oversee new opportunities arising at the horizon. Newcomers need to establish a critical mass of supply at emerging markets, which is a tough job given that markets tend to establish borderlines among well-established firms. Some markets are characterized rather by an oligopoly than by competition. A minimum answer to adaptation deficits, therefore, is the establishment of effective anti-trust and competition policies by governments. Competition needs to be protected against firms' interest in raising their rent by lowering the degree of competition.

Again, this looks like a game between governments and firms. What role should other actors play, why bother with a more complex governance structure? Our strand of arguments starts from the observation that markets are created by supply *and* demand, not only by firms (Witt 2001, Loasby 2001). Markets evolve step by step, created by pioneers and with a particular involvement of consumers at the different stages of development. Possible markets for common goods may also be triggered by intermediates such as socially responsible investment funds. Consumers are increasingly involved in product development. They are definitely important in specifying what they really need. The point to flag here is that these processes evolve over time, driven by changing attitudes and customs as well as by increasing competences. Our point easily applies to consumer goods. In addition, infrastructures and other goods ought to be seen as dependent on consumers' choices too. Looking from this angle, consumers bear co-responsibility for markets. Consumer policy seems as legitimate as competition policy. In fact, both can hardly strive for success without their counterpart. Adaptation deficits

ought to be tackled by competition *and* consumers. Governance that goes beyond traditional regulatory efforts seems indispensable for both purposes.

One may conclude that acknowledging adaptation deficits favour the establishment of self-learning systems, which need to integrate consumers, individual actors, and their civil organisations. These systems need to balance the market power of different interests in order to set proper incentives for endogenous market evolution.

Information deficits are serious. Economic textbooks usually assume perfect rationality based upon perfect information. The magic of the invisible hand strongly relies upon those assumptions. Easy to say, both hardly exist in real world. "Asymmetric information" complicating the work of markets has become an established field in the realm of economics. The problem of medical care is an obvious example where expertise on diagnosis and prescription strongly depends upon patients' ability on the use of that expertise as well as on a dialogue of shared learning. Both parties might easily agree upon "doing more is better than doing nothing", which comes at the expense of social insurances. Those things are complicate to resolve, indicating a need for governance. Basically, this is a problem of prevailing ubiquitous information deficits (Stiglitz 2000).

A modified behavioural assumption drawing on these observations could be modelled as an "efficient information gatherer". In such view, people are supposed to assess the cost for information search and their transformation into know how against their potential benefit. But looking from a more epistemological viewpoint, such a construction seems not very plausible. What toolbox enables people to assess potential benefits from the unknown (Ostrom 1998; Wegner 1997)? In fact, a behavioural assumption should rather accept bounded rationality, i.e. strategies of satisfying needs based upon uncertain information rather than optimisation based upon perfect information. Such concept of rationality is crucial when negative externalities and public goods arise on the agenda. Strategies in both areas rely on sound information. This is why publicly financed agencies and research institutes are involved in permanently monitoring and assessing the quality of certain public goods (Dixit 2000): it is not only information supply that matters, but rather the transformation of information through learning processes.

Though a regulation on information deficits is quite accepted when public goods and externalities are involved, the proper scope of regulation and individuals' responsibilities remain an open question. Especially when individuals are directly concerned, e.g. in cases of health, education, child-care etc., the positions greatly diverge. Some claim that because each individual can best decide about his or her interests, governments should largely be kept outside. Their opponents claim that because of market power and individual deficits, those questions need to be

regulated in order to protect individuals. This debate cannot be laid down here. What seems important, however, is the necessary involvement of individuals and organisations in the problem of information deficits. Guidance and rules developed by collective action appear as a mean to regulate those problems with least-cost bureaucracies.

One can add one additional category of market failures, which has become essential part of economic policies of the last two decades: *natural monopolies*. Their characteristics lie in indivisibilities as well as in permanently declining average total costs, resulting from large investments in their establishment compared to low cost for running the system. Well-known examples are the electric grid and the railway system. The stunning-blow for deregulation in the eighties and nineties of 20th century resulted in cost reduction and innovation on the one hand and additional problems on the other. Sometimes it was overlooked that natural monopolies had close ties to public goods and externalities, namely regarding security of supply and safety. After discovering these mistakes, a wave of "re-regulation" (Majone 1998, Héritier 2002) has started, most notably in the European states. This re-regulation takes the course of opening markets for those parts that can be considered mainly private goods and establishing standards and other forms of regulation for natural monopolies in the narrow sense.

Looking at market failures altogether, a straightforward conclusion can be drawn: *markets need governance in order to function properly. Markets need guidance and rules in order to maintain and improve efficiency.* Markets run efficiently as long as they are embedded in a governance structure restricting the "bads" and enabling the "goods". In fact, market efficiency is the outcome of appropriate guidance and rules. Those societies equipped with appropriate and well-running institutions can be regarded lucky, whereas those bearing old-fashioned, inappropriate and sticky institutions suffer. Nobel laureates such as Douglass C. North (1990), Mancur Olson (1998), and Joseph Stiglitz (1998, 2000) can be regarded as main advocates of our conclusion, which is generally supported by New Institutional Economics and the German Ordnungspolitik (Grossekettler 1997). The Japanese tradition of "administrative guidance" (gyosei shido) also entails wisdom towards that perspective. The new challenge is to re-balance different interests in order to find a public role for the private sector as well as to precisely define the role for governments in market regulation. This is where synergies between corporate and political governance may be expected to emerge. The following chapters endeavour such governance systems.

Searching for synergies between corporate and political governance one may note that market economies reveal their greatest strength in long-run performance rather than in short run-efficiency. This is because adaptation processes are always relevant, and learning processes take their time. Remembering the former socialist systems, their inability to adapt is exactly why they collapsed. Central

planning might work in the short run and for a small island economy. For open, complex, modern, heterogeneous, and pluralistic societies, market principles of supply and demand seems better suited to evolve over time due to changing social environments. Given market failures, however, any governance structure ought to do essentially two things: Firstly, to guarantee an institutional framework and, secondly, to rebalance short-run inefficiencies arising in development processes. Both tasks will be discussed in more detail below. Before one enters this discussion, some general remarks on governments seem necessary.

4 Government Failures and the Need for Governance

It is widely agreed that market failures have to be compensated by governments. Unfortunately, governments are not perfectly equipped for these tasks. They can be regarded imperfect too. Categories of government failures may bee seen in adaptation deficits and information deficits similar to market failures as well as in corruption and bureaucracy growth at the expense of the taxpaying society. More generally, regulation might turn out to be ineffective and costly. Theories in this regard, however, do not yet seem to be as elaborated as theories of market failures.

As pointed out by public choice theories, some structural bias against good governments results from self-interest of politicians and bureaucracies (Buchanan/ Musgrave 1999; Mueller 1997; Olson 1982). Politicians may strive for re-election rather than long-run problem solving. Bureaucracies may tend to look for maximization of their budgets and power, which does not necessarily coincide with fulfilling their various tasks. Regulatory agencies have to permanently deal with those they are supposed to regulate leading to the "capture of the regulator" phenomenon (Dixit 2000). Clearly, control is a case in point for all three mechanisms. Such a control may come from parliaments, competing parties, media, and special agencies for budget control. Nevertheless, some government failures always will remain.

These failures ought to be taken into account when analysis on governments aims at meeting the two demands identified above to guarantee an institutional frame and to rebalance short-run inefficiencies arising in development processes. Government failures lead to the following risks for the development of both markets and society:

- Slowing down dynamics of progress,
- Welfare losses due to high regulatory cost ("Deadweight losses"),
- Incentives for rent-seeking and lobbying activities favouring established interest groups against new businesses and SME's,
- Cognitive overload and orientation deficits,
- Crowding out for voluntary action and other non-paid civil activities,
- New externalities created by unforeseeable market responses to any regulation,
- Long-term negative impacts.

Aiming at better governments, knowledge deficits have to be stressed. Governments hardly possess the knowledge able to steer business and society in a certain direction. True enough, governments do have competence along their various

administrative organizations. They can acquire new knowledge via hearings, studies, expert committees, and advisory councils. One may remember that the "Global 2000" report to the US-President at that time, Jimmy Carter, definitely had severe impact on the environmental debate of late 70s and 80s in last century. The German Enquete-Commissions were able to influence the climate change debate. Various councils of economic advisors play their role with remarkable success, though they sometimes feel upset with hard-headed politicians (see for an insider story Stiglitz 1998).

Nevertheless, these improvements can hardly lead to a general optimism about government's steering capacities. While public budgets are loaded with huge deficits, the financial capacities are low anyway. Governments heavily depend upon the knowledge generated in decentralized activities of research, markets, and society. Governments' comparative advantage in knowledge generation can rather be seen in terms of setting an institutional frame, arriving at a consensus where conflicts among different groups arise, and providing an overall orientation based upon peoples' heterogeneous views. Overcoming knowledge deficits by acknowledging different roles and by accepting a division of labour in knowledge creating, thus, is a key to improving governments (Dror 2001; Rodrik 2000; Wegner 1997; Young 1999).

There are some success stories in policy-making that may illustrate our point. The wisdom to fight inflation via a central bank independent from government can be seen as one pillar of economic policies in most countries. Like Odysseus in ancient Greece binding his body at the ship's mast and restricting himself from being attracted by the sirens, governments themselves have decided to set the organization of money supply apart from parliaments and ministries. Many countries even made this decision within their constitution, thus making any change almost impossible. Countries have learned their lesson via painful periods of hyperinflation, via observable success in foreign countries, and last but not least by improved economic analysis. In a similar vein, independent agencies for antitrust and budget control have been set up in a variety of countries thus underlining that good governance includes a system of checks and balances between governments and some independent agencies.

A further success story, at least in the long run, can be traced from observing the European Union. It can be regarded a miracle that after a World War and a long lasting period of nationalism, a few countries started to transfer some sovereignty to a newly established body, which was able to evolve over time and to attract many other European countries. Who would deny that European countries, after all, profit from burden sharing and the internal market regime? Like the USA in late 19th century, mid to late 20th century in Europe has been a period of unification driven by some good governments. While it is certainly true that much needs to be done to reforming European institutions, there will be no way back to a status quo ante.

Summarizing this debate one may arrive at the conclusion that bad governments make market outcomes worse, but good governments can improve market outcomes. As market failures are a stimulus to improving markets rather than departing from it, there is *no reason to departing from the state because of government failures*. The two central functions of setting a frame and regulating main market inefficiencies with severe negative impacts on society remain crucially important. At the same time, *government failures call for a comprehensive governance structure actively involving corporate responsibility and societies*. Such an involvement is not only necessary in terms of raising voices of interest groups and/or affected groups, but also in terms of knowledge creation. It is a permanent process for policy improvements (Dror 2001).

Looking forward towards a comprehensive governance structure, it ought to be designed as a self-evolving system able to learn over time. The legal system as well as economic incentives, for instance, can provide tools for "governance without governments" (Young 1999). This term refers partially to the evolution of rules and social norms independent from governments caused by courts' decisions. In particular the Anglo-Saxon countries have a strong tradition of law making by courts, and to a lesser degree by governments. Such an evolution offers advantages of flexibility and regional diversity: courts can decide according to best available knowledge and regional circumstances (e.g. other laws). Relying on such an evolution of law is, however, a two-edged sword. The system demands more lawyers, and requires fees to feed them. Those fees may have negative side effects towards the rich and against poorer people who cannot afford taking a lawyer. A second disadvantage might be seen in possible orientation deficits due to ever changing laws. Flexibility may come at the expense of high transaction costs for stabilization (Dixit 2000; Ostrom 2000; Stiglitz 1998; Rodrik 2000).

Given these insights from theory, a desirable direction for a comprehensive governance system would go along two lines: it should help to *control* both markets and governments and it should *enable* companies as well as citizens to participate in markets. Examples for both directions are various. "Controlling" laws include legal regulation for markets, accounting procedures, liability of producers and individuals, mandatory reporting, political party financing, etc. "Enabling" laws include different freedom of information acts, prosecuting laws for NGO's, etc. Our point seems worth to underline: Small- and Medium-sized enterprises (SME's) and civil society gain a strong partner if the law is designed to serving their needs rather than bureaucrats or capitalists. In democracies, the *rule of law is an essential pillar balancing markets and governments towards their citizens and towards SME's* (Nonet/Selznick 1978; Ayres/Braithwaite 1992). Such rule of law can be seen an essential function for sustainable development, too.

5 Governance as Regulated Self-Regulation

As already pointed out, sceptical views on governments and bureaucracies are not supposed as leading to an overall direction of making them superfluous. It rather follows from these observations to, firstly, strive for governments' improvements, secondly, to believe in markets' ability to yield economic performance and, thirdly, to strengthen civil societies' participation. These features can be described via the term "regulated self-regulation".

The basic idea of regulated self-regulation follows the line of thinking as flagged in the previous chapters. Markets are a good way of organising economic activities. Though market failures evidently exist, markets are able to learn. They can develop market-based institutions, helping to improve over time and to increase adaptation flexibility (Ahrens 2002). Markets entail a potential for self-regulation, i.e. they can contribute to the provision for some common goods (via developing "fit for purpose" goods and services) and they can internalise some externalities (via e.g. "low hanging fruits" of eco-efficiency). Nevertheless, acknowledging a remaining need for market regulation brings governments back at the forefront. Accordingly one can say that though government failures evidently exist, governments have improved over time and can be supposed to do so in future. Their function is both controlling the "bad" and enabling the "good".

Having summarized such a line of thinking, one may note that both players have a positive role in societies' development, not a negative one. These positive roles can be seen in markets' provision of goods and development of new technologies as well as in governments' provision of a context for a fruitful life. Both functions are interrelated: markets rely on guidance and rules for which governments are indispensable; governments can only provide for the context of a fruitful life if markets serve their function too. At the same time, both players rely on civil society, whose positive role in development is evident. Perhaps one can cite Adam Smith, the well-known author of "The wealth of nations" and "Theory of moral sentiments", as one lawyer stressing both the "invisible hand" of markets and civil societies' role. Smith underlined the extended empathy that humans in a community have for each other, along with, indeed, feelings of rivalry or even hostility. That kind of extended empathy as learned through e.g. family life could be deemed vital in any development. It can hardly be experienced via markets or governments, and thus leads once again to the civil society as a third pillar of a governance system.

Regulated self-regulation refers to these positive roles. A market economy relies on a wide array of both market-based and political institutions that perform stabilising, regulatory, and legitimising functions. The new way of doing governance clearly takes place on multiple arenas partly with and partly beyond the state. It consists of polycentric steering institutions with a strong emphasis on subsidiarity (Héritier 2002; Young 1999). Governments need to ensure that markets work properly within such an institutional frame on the lowest possible transaction cost level. To put it with other words: self-regulation to the extent possible, regulation to the extent necessary. Seen from this angle, the traditional dichotomy between market and state or between laissez-faire and intervention loses more and more importance. Both serve complementary functions that keep the system running. A well-performing market economy is a mixed composition of state and markets. According to Metcalfe (2001: 579) "it is the combination of institutions for selection and development that gives to capitalism its undoubted potential to change itself from within (…)". Langlois and Robertson (1995) on business institutions, Dixit (2000), March (1999), North (1990), Wegner (1997), and Rodrik (2000) formulate similar views.

According to Harvard researcher Dani Rodrik (2000), there are five basic types of market supporting institutions that form a regulatory frame: property rights, macroeconomic stabilisation, social insurance, regulatory institutions, and conflict management:[2]

- Property rights are needed in order to provide incentives for both conservation and investments. Perhaps it is illustrative to compare cows and fishes: cows will never become extinct because of existing property rights, fishes have become endangered species because property rights are extremely difficult to administer. This example can be applied to houses, land, utilities, investments, etc. In this context, the freedom for contracts also should be mentioned. More recently, De Soto (2002) stressed the overwhelming importance of property rights for Developing Countries.
- Macroeconomic stabilisation basically means anti-inflation policy: the control of money supply in the economy via an independent central bank authority.
- Social insurances are needed in order to protect individuals from unforeseeable risks of becoming ill or handicapped, to provide income for elder people, and to bridge the income gap in times of unemployment. Despite huge differences among countries and ensuing needs for reforms, however, there is widespread agreement that governmental regulation should safeguard social insurances.
- Regulatory institutions are designed to balance market failures (see next chapter).

[2] This is very similar to the German „Ordnungspolitik", which can be seen as essential driving force behind the German economic miracle of the fifties and sixties in last century and one basic idea of the European Union; see for an overview Grossekettler (1997).

- Conflict management refers to the necessity of arriving at a societal consensus when preferences change or unexpected events occur that demand a decision by society as a whole. Conflict management presupposes that no benevolent dictator exists and processes of deliberation, painful redistributions, and interaction among interest groups will have to be managed. This task is seemingly important for democracies.

In the context of regulated self-regulation, conflict management relates to the participatory capacities of a society. Concerned citizens participate e.g. by a political referendum on single issues (as usual in Switzerland), by being involved in public hearings ("voice option"), by acting collectively as consumers, by taking part in stakeholder consultation, by pooling financial power on the stock markets, and by being able to control information provided by businesses. Interestingly, the econometric analysis across several countries done by Rodrik (2000) reveals that those participatory politics do enhance economic stability.

Perhaps a participatory governance approach among corporate and governmental actors is best illustrated when considering one example, which is relevant to sustainable development: *setting targets*. The standard approach assumes a perfectly informed government being able to set proper targets for the provision of public goods. Market enthusiasts, on the contrary, claim that forces of supply and demand would do better; targets would intervene in allocation efficiency and might not be needed at all.

Fig. 2: Participatory processes of setting targets

Discussion forums are a good opportunity to highlight the diversity of the community and its creative potentials. There the draft list of measurable indicators and data worked out by the working group can be modified and complemented with specific targets and priority measures to be taken.

Source: Spangenberg, WI 1998

The participatory governance approach means that target formulation is a process rather than a one-time shot. Businesses need to widen their set of choices; they have to readjust their expectations in order to arrive at least-cost options. People need to think through their customs, they also rely on communication in order to take other views into account. In this sense, Factor Four can serve as a strategic open target, able to be translated at the individual level of decision-making and, at the same time, serving as a goal for development without being fixed to a narrow schedule (Hinterberger et al. 2000; Bleischwitz 2002).

While it can be assumed that these ingredients will be acceptable as principles for regulated self-regulation, another task can be added that might deserve some explanation: *Shifting taxes from labour to natural resources.* Why that and why should that become a principle of regulated self-regulation? The explanation stems from the notion of externalities as introduced in the previous chapter. Environmental problems are surely one negative externality. Though environmental law has been enacted to protect the environment, recent developments such as the greenhouse effect, the loss of biological diversity, and shortages in clean water demonstrate that the problem is somewhat more fundamental. At the same time, unemployment remains a concern in many countries. Though causes and effects are complex, it can be proposed to view unemployment as a negative externality, too. In both cases, the overall price level contributes to the problem rather than solving it. Prices for using nature are, by and large, too low, whereas prices for labour as a factor of production remain high because they include various taxes and fees. In cases like the global commons, using nature comes even free of charge! It is therefore proposed e.g. by the Club of Rome that taxes should be shifted from labour (where they are raised traditionally) to natural resources. Such a shift would provide incentives of rationalising the use of nature and enhancing employment. Self-regulation, hence, becomes strengthened via such tax shift, i.e. via intelligent regulation!

One might argue that such a principle would jeopardize price mechanism and, thus, contradict the principles of market economies. In our view, it is exactly the other way around: the price mechanism ought to be protected in order to tell the economical and ecological truth! Taxes relate to the price level, not to the ability of changing prices via demand and supply. Trends of over-using nature and under-using labour still prevail bringing society and nature out of balance. This fundamental distortion needs to be rebalanced step by step. In doing so, price mechanism will facilitate the emergence of new markets and other problem-solving activities. In other words, price mechanism will enable markets to discover new technologies and new production processes – a task which needs not be done by governments if prices tell the economical and ecological truth.

Another concern relates to knowledge generation. Theoretically, high prices for labour spur investments in human capital because of its high return on investments. Would that change under a regime of eco-taxes and lower taxes on labour, perhaps leading to a society on rural subsistence level? No, two reasons speak in favour of further increases in human capital. Firstly, eco-efficiency and a new technological progress heavily depend upon new knowledge, which can only be gained by human creativity, co-operation and enhanced skills. Technologies and learning co-evolve. Increasing prices for natural resources will spur investments in human capital too. Secondly, lower prices for labour as a factor of production do not determine lower income. The playing field for income negotiations will be enlarged. As employment situation can be expected to improve, more people are involved in providing goods and services. They will improve their skills via learning-by-doing, learning-by-using, learning-by-experimenting, etc. Knowledge society will be facilitated, if taxation shifts from labour to natural resources!

Seen from this angle, shifting taxation becomes an important transformation principle for regulated self-regulation towards sustainable development. For the policy areas of climate protection, energy policy and eco-efficiency, it is as important as the other principles described above. Instruments that are more specific in regulating short-term inefficiencies of markets will add it. Given that interest groups will fight for privileges and national differences will remain (Backhaus 1999), the introduction of eco-taxes will surely take time. The principle, however, should be as clear as possible.

In order to safeguard stability, it will be wise to gradually change taxes. The plea is for a moderate change allowing businesses and administrations to adapt. Such a gradual change might be in the order of 3–5 percent annual shift. It should include revenue neutrality or even a lowering of the overall level of taxation. The tax base should be rather broad. Besides taxing certain pollutants with low elasticity of demand (such as CO_2) or taxing energy sources, a taxation of raw materials should be considered. The rationale is based upon recent developments in environmental research, which underline the “material matters” issue with regard to resources’ scarcity, solid waste, landscape alteration through resource extraction, and eco-efficiency (Bringezu 2002; Matthews 2000). While eco-taxes have become prominent in recent years, raw material taxes are just emerging. For practical reasons, they are raised on well-defined materials such as crushed rocks or gravel and not yet on any aggregated resource-index. (e.g. in Sweden and UK).

After all, principles of regulating self-regulation have not yet fully spelled out by research; they will slowly evolve over time. Their evolution largely depends upon learning efforts of different actors, namely politicians, administrations, and business makers. This is why corporate and governmental governance systems ought to explore synergies.

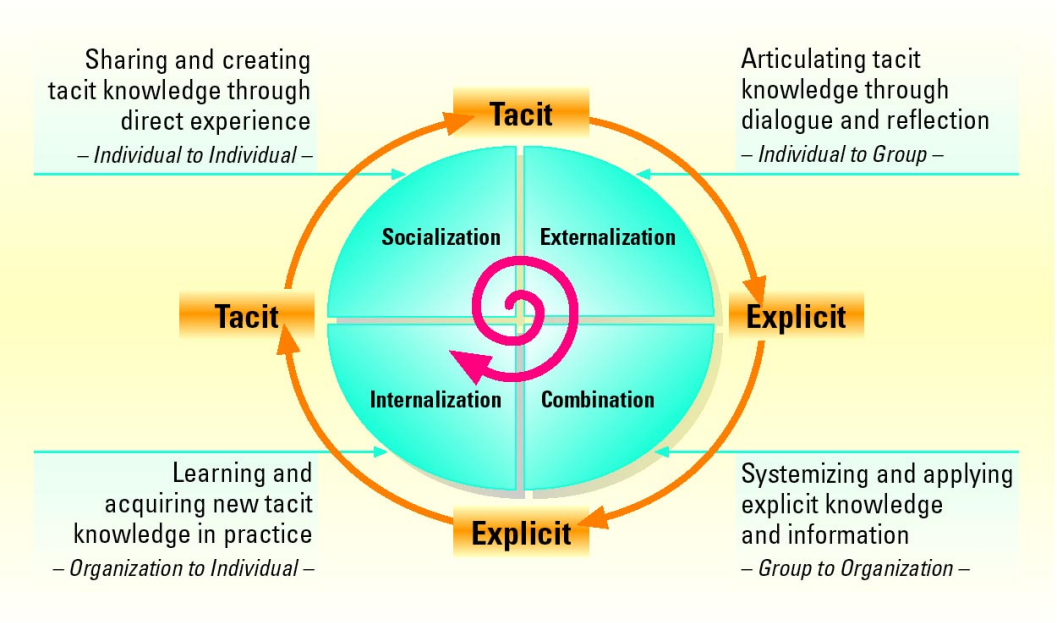
6 Governance and Knowledge-Based Firms

Some may ask how such a new way of doing governance fits into the scope of profit-maximizing firms or the ideology of shareholder value. Wouldn't profit-maximising firms try to escape from whatever responsibility because of its inherent costs and wouldn't they continue to act as free riders benefiting from action taken by others? This might well be the case. In fact, firms' behaviour will never become benevolent for society as a whole or for global commons. Why should it? But they can, as it has been proposed, play a public role outperforming traditional profit-maximizing behaviour while doing good business on competitive markets. Our notion of corporate governance not only accepts profit seeking in emerging markets for eco-efficiency and related areas, in fact it foresees it as a driving force towards sustainable development in those activities, IF it can be embedded into proper rules and other institutions. In such context, corporate actors may even create new markets for sustainable development that have previously been perceived as public domain. The following remarks and the subsequent chapter explain why.

Recent economics (Nelson 2002) reveals a shift in the connotation of "profit maximisation". In earlier times, the striving for profits was a standard assumption about business motivation, towards an optimisation along a sharp defined opportunity set. Firms were not thought of as gradually groping, experimenting and innovating towards incremental improvements. Rather, it was a previously defined set of average total cost, marginal revenues due to market demand, and technological choices that predetermined profits. Management task, according to this view, was rather optimisation towards market equilibrium. Evidently, those models of the firm would have no interest in providing for common goods or internalisation of externalities.

One consequence of that view was that it became difficult to explain dynamics of competition and knowledge generation. More recent views, thus, have established the model of knowledge-based firms (Leonard-Barton, 1995; Langlois/Robertson 1995, Loasby 2001, March 1999; Nonaka/ Toyama 2002). Firms are assumed to act under uncertainties and information deficits. They rely on permanent knowledge generation provided by outside sources, experiments, and internal implementation processes. As a result, individual firms act different from each other, strengthening the function of competition as a process of discoveries and selection. Firms also can create markets from scratch, by coordinating themselves with others along vertical or horizontal forms.

Fig. 3: The Spiral of Knowledge Generation



Source: Nonaka and Toyama 2002.

Wuppertal Institute P-rb-10e/03

In doing so, firms establish communication with stakeholders in order to learn about changing demand, developing useful goods and services, and in order to avoid stunning blows of hostile reactions.

The question now is whether such a model overcomes prevailing assumptions about firms' approaches towards sustainable development and involvement in a governance structure. If one accepts the model for competitive markets, would that have any consequence for the questions outlined here? Key to an answer is the insight that there are indeed potentials to win-win solutions and that there is no fixed borderline between common and private goods. Knowledge-based firms basically would do two things towards sustainable development while serving their own interest: They develop those technologies and/or services that are private but contribute to public goals. Renewable energies, clean water technologies are just a few examples. As a second opportunity, firms work on demand creation, be it by marketing or be it by other professional forms of doing business. These efforts facilitate the crucial need to combat free riding (Ostrom 2000). Examples are services of leasing, renting, pooling, and sharing goods that contribute to the commons, such as the organisation of car-sharing by the industry in order to save cost for parking places.

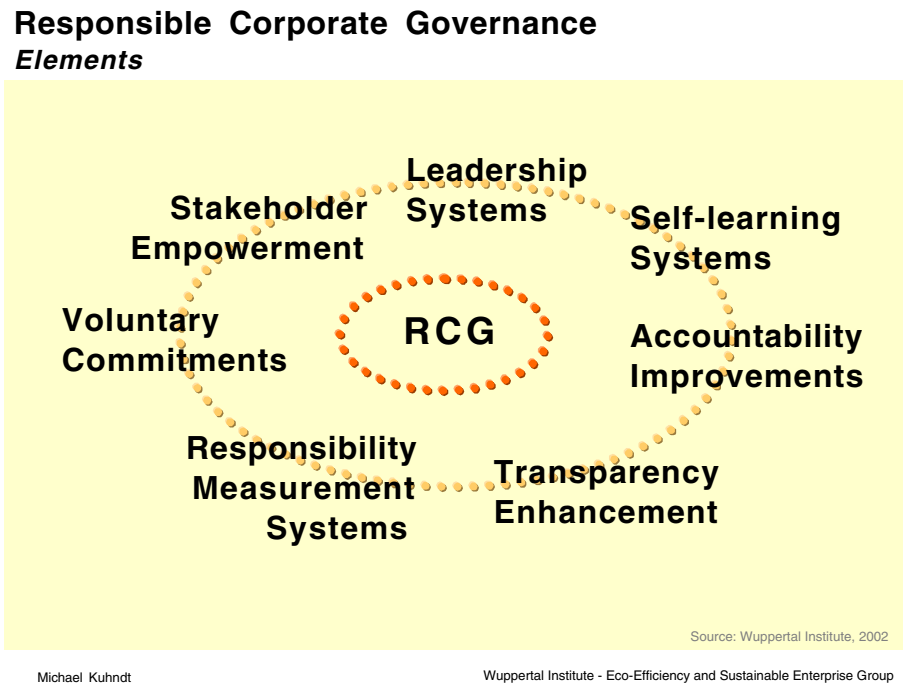
There is another part of the story worth to be mentioned here. Firms participating in the evolution of new rules together with stakeholders can profit from that exercise. This is not only because they may influence the outcome. Main reason, once again, is the learning advantage of being forerunner or a fast imitator. Adaptation time shortens seriously when firms participate. Learning during times of governmental reframing may trigger some competitive advantage. In other cases, any further regulation will have to rely on experiences gained by pioneering firms because they can exactly draw upon data about costs and benefits of various institutional mechanisms. Any governance system, thus, requires exploration and experiments undertaken by corporate actors.

Transnational companies such as chemical company BASF or oil companies such as BP and Shell may serve as examples of how firms can change. Being formerly devoted to "dirty" business and beard with a long tradition of environmental pollution, those firms have started to learn from failures. Sometimes painful (as in the case of Shell versus Greenpeace over the "Brent Spar" oil platform in North Sea or the blaming of BASF for lately developing CFC substitutes), sometimes deliberate (as in the case of BASF development of eco-efficiency schemes), sometimes fundamental (as in the change of core competences towards renewable energies): Those TNC's now create new markets that relief environmental pressure and behave as knowledge-based firm, combining value adding activities of manufacturing and services. Those firms also communicate intensively with stakeholders from various societal groups. If willing to do so, TNC's might be able to provide rule-making authority for those societies where the law and the state can be considered weak (Cashore 2002; Haufler 2001: 120 ff.).

Worth to note that not only TNC's are acting as a knowledge-based firm but also SME's. Some theories (Langlois/Robertson 1995) even suggest more innovative power from SME networks (like Silicon Valley) compared to the Schumpeterian view of advantageous big companies. This is quite often associated to local or regional clusters of innovation, involving local municipalities, universities etc.

Corporate governance is an issue that fits well into analysis on how firms learn and how they can be managed in a consistent way (Williamson 1999). The concept is of increasing importance in the business community. It addresses all kind of management tools able to steer a complex company in uncertain markets in co-operation with shareholders and stakeholders based upon legal and other principles. In part, corporate governance puts a limit on a behaviour seeking for any profit possible and refrains business from entering high-risk activities at the expense of society. In addition, it helps firms to create new knowledge helpful for solving complex problems of tomorrow: today's ideas and institutions form tomorrow markets.

Fig. 4: Corporate Governance



The conclusion for an analytical framework is indeed not that the model of the knowledge-based firm is the only or dominant form of doing business. Many firms struggle with their survival and can hardly spend time with learning and exploring new opportunities; though they may be seen as laggards, they are indeed relevant for an analysis. Our claim is that firms tend to imitate pioneers and successors, meaning that incentives for improvements predominantly come from market and only to a limited extent from governments. Worth to note, the model has strong roots in both empirical and theoretical research. It may form an ingredient for the emerging debates about a comprehensive governance system. The model emphasizes interdependencies between firms, governments and societal stakeholders. Driving force for change is a capitalistic knowledge-based firm, not only the like-minded ethically inspired entrepreneur! Those knowledge-based firms act as entrepreneurs and pioneers, they trigger other companies and markets. Along that path, a governance structure will have to keep an eye on the overall process of change, including those firms preferring externalisation. Indeed, more empirical analysis is needed to test our model and to modify it with a view on those firms that may remain outside the scope of our analysis.

7 Markets for Sustainability

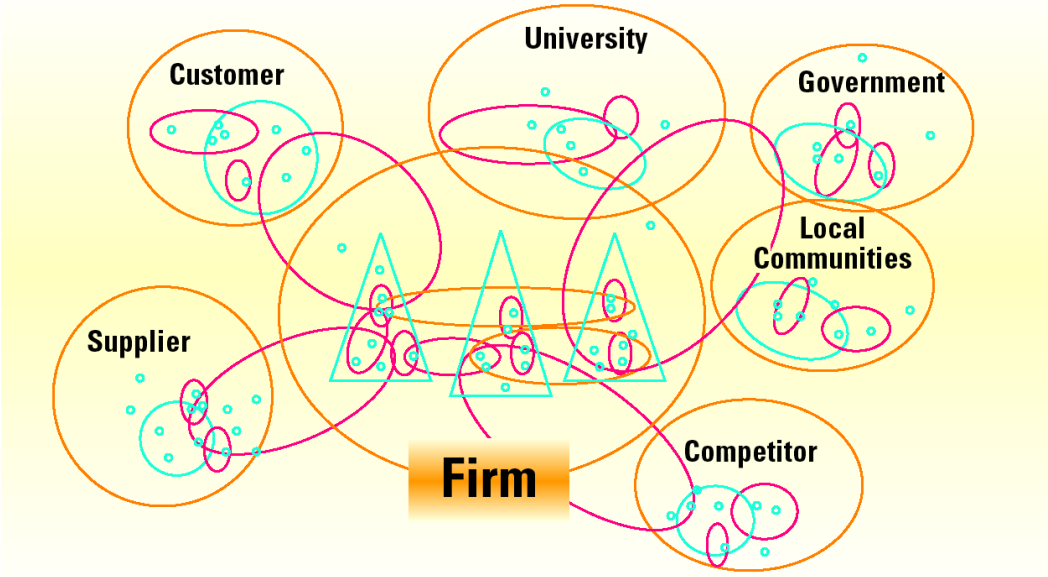
Our perhaps striking hypothesis about a public role for corporate actors (if embedded in rules and other institutions) not only proposes "better" firms but also "better" markets. For some observers, it may come as a surprise that markets for sustainability emerge. One insight relates to technological change. The process of discoveries can also take the course of cleaner production, more efficient production processes, new products able to lower the environmental pressure, etc. One may underline that technological change can shift the borderline from public goods towards private goods insofar as goods formerly perceived as public can be provided by private action. A clean environment, seen from this angle, can at least partly be provided through private markets activities. Firms hold an interest in these emerging markets as soon as any profit can be expected. The point, thus, is related to the evolution of markets. They do evolve over time according to institutional change coming along with governance (Metcalfe 2002; Nelson 2002; North 1990). Transaction cost associated with research & development and the ensuing establishment of new markets can be economized by firms, markets and adopted institutions. The element proposed within the analytical framework is as follows: Step by step, formerly public activities can be transformed towards the involvement of profitable business if the incentives set by governance systems co-evolve. Such "if" is indeed an important implication that deserves further research. The market-based steps might be viewed as follows:

- Overcoming information deficits,
- Rearranging environmental management within a firm,
- Supply chain management among firms (vertical cooperation),
- Opening the supply chain for external eco-efficient suppliers,
- More radical innovations like functional redesign or system renewal,
- Horizontal diffusion of innovations.

Markets for sustainability are especially obvious in some areas. Easy to say that eco-efficiency is about new markets for clean technologies and services. The same holds true for energy efficiency and clean energy supply. Does it apply to other environmental problems such as climate protection? Isn't it a truly global public good (Kaul et al 1999)? This paper does not deny the open access and the non-rivalness of Earth's atmosphere. But the proposed thesis about markets for sustainability may open a new perspective to the problem. Climate protection comes along with energy efficiency, with increasing shares of renewable energies, and with increasing markets for eco-efficiency substituting resource-intensive production processes. Those markets can be made profitable; production functions

can be modelled as a step-function. Emerging stepwise along a learning governance structure, those markets also produce positive externalities insofar as they yield positive impacts to Earth's atmosphere. Seen from this angle, governance for sustainable development becomes a positive-sum game: once markets for energy efficiency, renewable energies, and eco-efficiency are created, they can provide for the provision of a public good or, precisely, they reduce risks and serve functions of stabilizing Earth's atmosphere. Towards such a perspective, processes of search, discoveries, innovation, and diffusion ought to be strengthened. This is, once more, a task for firms and for governments and for organisations from civil society.

Fig. 5: Firms as parts of social environment



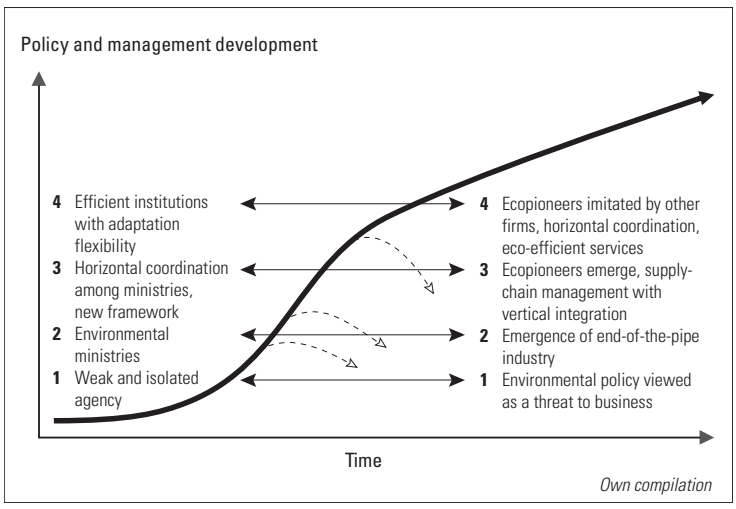
Source: Nonaka and Toyama 2002.

Wuppertal Institute P-rb-11e/03

8 Innovation-Inducing and Responsive Regulation

As outlined above, any governance of sustainability will have to come to grips with manifold forms of doing business as well as with day-to-day policies resulting from short-run inefficiencies. Of course, this is partly the room for command-and-control approaches and other policies that restrict businesses in case of permanent non-compliance or high-risk activities. But it is also relevant when long-term tasks like climate protection are to be performed, which need to take the course of learning and change. The ensuing aim of innovation-inducing regulation is indeed important for the scope of this paper. It is a type of regulation that not only facilitates innovation but also co-evolves along with specific developments. Such co-evolution is based upon the insight that important governance functions are to be dealt with at the level of day-to-day governance and cannot completely be regulated ex-ante by any framework. This is because of uncertainties, knowledge deficits and, by and large, the creativity of the human mind in performing action with unpredictable results. One may note that these uncertainties derive from different sources: discoveries into the previously unknown as well as the persistence of market failures, which may have been regarded as easier to overcome. Innovation-inducing regulation hence co-evolves with corporate activities and the emergence of new markets for sustainability.

Fig. 6: Co-Evolution of Corporate and Political Governance



Source: Own compilation

Along that perspective one may recognize that important governance functions, which previously have been devoted to a framework are increasingly to be dealt with via participatory processes and administrations. Stabilization, for instance, not only results from a framework but also from adaptation to new circumstances. The importance of adaptation flexibility rises with the degree of uncertainties and change. For the purposes of this paper thus, adaptation flexibility is as relevant as an ex-ante framework. The notion of "responsive regulation" (Ayres/Braithwaite 1992; Nonet/Salznick 1978) captures such a process between different actors where participation creates regulatory knowledge at different levels. It refers to open space for corporate actors whose ability to innovate is supposed to be supported by governments. In addition, it emphasizes the need to strengthen third parties such as environmental NGO's in their capacity to monitor progress and to articulate concerns. Seen from this angle, co-evolution is like an on-and-off connection between economical and political progress. A new type of governance, as proposed by this paper, can draw upon these recent theorizing about innovation induced by soft regulation and performed by multi-actor coalitions (Grossekettler 1997; Majone 1998; Wegner 1997).

Innovation-inducing regulation has a short time horizon of a few months or years, in distinction to framing efforts having an impact over many years if not decades. Innovation-inducing regulation relates to the governmental function of absorbing societal problems, bringing together heterogeneous actors, arriving at solutions for certain problems. At the same time, the notion supposes that governments do not necessarily have the knowledge about what exactly can be done. They stick business' attention to solving certain problems rather that saying them what they have to do. Governments help to establish win-win coalitions, but they do not presuppose their specific action. They participate in networks and other forms of multi-actor coalitions without being in a major position. Policy-making shifts from policy-makers towards a multitude of actors involving corporate actors and environmental NGO's. Here, corporate governance and our notion of knowledge-based firms fits well into a comprehensive governance system.

An example at hand is river pollution. When scientific measures indicate a necessity of cleaning up the water, governments need to act. They have to gain knowledge about polluting substances, water use, and polluting actors. Developing detailed schemes for each individual polluter with targets and timetables would certainly overload governments' capacities. Innovation-inducing regulation, on the other hand, brings forward monitoring and assessment capacities as well as overall quality targets. In addition, a platform for de-central dialogues about who should do what can be established, with regular monitoring of progress and the ability of sanctioning free riders. Whether and how some firms compensate others for their tougher abatement activities, whether and how some substances can be completely phased out faster than others, or whether and how polluters pool their activities towards research and development – it is beyond

governmental scope. What matters is the idea of quality that can be reached within a timeframe sufficient for eco-systems to be sustained and solutions that can be developed de-centrally.

Another illustration might be seen in the promotion of renewable energies via the German law. Most people agree that renewable energies should have a larger market share than they actually have. Market advocates would argue in favour of "let the market decide", whereas advocates of interventionism would perhaps like to see a public budget financing solar energy. Innovation-inducing regulation mixes ingredients from both perspectives.[3] It tackles the market deficit of monopolistic electricity markets with large utilities via fixed enumeration prices for producers of renewable energies, thus creating asymmetric competition in favour of new competitors and providing impulses for emerging markets of sustainability. Those fixed enumeration prices lead to higher electricity prices, which have to be dealt with at the level of the utilities in their function as customer-oriented company. If some utilities have to bear a higher burden (e.g. because of climate conditions), a compensation scheme can be agreed upon. What kind of renewable energies at what location will be developed is almost completely up to the market, to local governments, and specific demands. Over time, the enumeration fees will have to be reduced in order to avoid subsidies. The phenomenon of "entrapment" (Walker 2000), where institutional commitments at different levels of decision-making lead to technological inertia, also favours co-evolution of regulation along with actual development. The mechanism, however, leads to the emergence of new markets created by market forces and supervised but not determined by governments.

Our conclusion for a comprehensive governance strategy is as follows: The function of innovation-inducing and responsible regulation is to enable action at the micro-level of markets and society by balancing some short-run inefficiencies. This clearly implies some kind of regulation, which cannot be regulated via any frame. But it does not imply any kind of regulation that would overwhelm adaptation flexibility of markets and societies. In order to improve regulatory policies towards learning of manifold actors, some criteria might be useful:

- Does the regulation reflect the total cost of an activity and does it facilitate price mechanism?
- Does the regulation entail clearly stated targets and aims thus providing orientation for market and societal actors?
- Does the regulation allow for adaptation flexibility and freedom to choose among different alternatives?

[3] WI colleagues have done some good analysis on these items (see e.g. Peter Hennicke, Manfred Fischedick et al.).

- What kind of incentives for knowledge creation is given?
- Are there inconsistencies within the regulation or in relation to other institutions that may allow for bypassing the rules?
- Are there incentives for third actors to become partners towards implementing and improving the regulation?

9 Conclusions

This paper tentatively arrives at the following conclusion: Governance' function is to facilitate processes of mutual learning, with governments being in a strong, but no major position. Rules level the playing field for corporate actors in their daily operations, leaving it up to society and markets what solutions are being discovered and how they are implemented. Together they may render a new form of governance comprising state *and* non-state actors, thus superseding the traditional distance between both. The paper indicates that some tasks usually performed by governments will not become completely obsolete, but will likely be transformed by involving corporate and other societal actors. This transformation is not a zero-sum game; rather it is a positive-sum game that may lead to win-win solutions. With a concluding view, some governance characteristics are as follows:

- The function of political agenda setting may be taken up by public alliances with private actors, both from civil society and the corporate level. Whether this comes close to a general shift from parliament, political parties, and administrations towards private actors, however, remains to be seen.
- In some cases, the location of authority (i.e. making the rules) may shift from governments towards multi-actor coalitions with participation from civil society and corporate business. Though strategic interests might drive such a shift too, it also contains motivations and perspectives of mutual learning. Whether and how public actors maintain the possibility of stepping in and taking over the functions should private actors not perform well, is subject of further research.
- The legitimacy is increasingly transferred to a stakeholder involvement, i.e. processes of evaluation and communication with minor involvement of governmental actors. How these processes may actually grant legitimacy, however, deserves further research.
- An indirect enforcement in the case of non-compliance is undertaken with the help of stakeholders, enabling them to raise their voices and putting items back to the top of agenda setting. These processes partly take place in networks and programmes at work, i.e. below the usual policy arena. How this may include legal aspects of corporate actors' accountability and liability deserves further research.

The following conclusions might be worth underlining for policy-makers:

- In order to become translated into private business interests, policies ought to meet a corridor where a minimum condition of clarity and long-term, verifiable targets should be met and where a maximum threshold of regulatory density should not be overstretched. Though this might make evaluation for effectiveness more difficult, it enhances learning processes at the level of individual actors. In many fields, there is a trade-off between effectiveness (favouring narrow targets and static instruments) and dynamic efficiency (favouring strategic open targets and learning tools).
- Benefits not only occur in terms of market development, but also in terms of capacity building, reputation, motivation, etc. Again, this can only partly be measured but it can be analysed via interviews and monitoring progress. When policy-makers intend to initiate and maintain those processes, they may keep an eye on those positive side-benefits, too.
- Local and regional initiatives for sustainable development can horizontally diffuse into other regions without entering the sphere of federal or international arenas. Networks of scientists, green or industrial NGO's contribute to this horizontal diffusion. A regulation at higher levels, however, is rational when more severe constraints are to be tackled (e.g. national laws or norms) or if reaching a critical mass of demand is pivotal for further market development (e.g. procurement). In this case, local and regional initiatives may act as a laboratory, thus pre-selecting a superior approach for policies at the federal or international level.
- Along with adjusting the legal framework, technical decentralization and political decentralization may coincide to a large degree. Legal aspects of decentralisation are especially relevant when a natural monopoly (such as the electric grid) needs to be regulated. Though decentralized providers e.g. for renewable energies can be strengthened by a regulatory framework for competition, a plea for federal elements at lower levels of policy-making can be made.
- Agencies and other organizations acting close to the market seem promising to economize the need for information processing, transparency and knowledge diffusion. By signalling innovation, attracting imitators and "ordinary" firms, they can overcome the drawback of expanding emerging markets beyond some like-minded pioneers. Their capacity as regards to enforcement and monitoring, however, still is and will remain to be weak.
- Administrations on the federal and regional level can play a positive role as provider of platforms for communication and as facilitator for advocacy coalitions, which take over responsibility for enforcement and monitoring processes. The provision of platforms may include public space (offices, meeting places etc.) and moderate financial resources. The facilitation for

enforcement and monitoring processes may also include moderate financial support for organizations outside single firms as well as active processes of bringing actors together.

One should admit that some possible shortcomings have to be addressed in further research, which may become more important in the next years. What might be done if speed and direction of these corporate and societal activities deserve stronger incentives? What might be done if a few countries and companies take a free-rider position and remain, by and large, outside sustainable development policies and can produce at lower costs while causing externalities? How can governance address the demand for transforming the "old and dirty" parts of businesses? To what extent can financial markets take over supervisory functions towards sustainable development?

There are a lot of research questions still on the agenda. However, some findings on governance of sustainability are worth to underline and may become a point of departure for further studies.

Acknowledgements

This paper has benefited much from a grant provided by Japanese Economic and Social Research Institute (ESRI), channelled through Mitsubishi Research Institute and Nomura Research Institute as part of the so-called “Millenium Collaboration Projects”. I owe especial thanks to my WI colleagues Thomas Langrock, Peter Hennicke, Michael Kuhndt, Holger Wallbaum, Rainer Lucas, Stephan Rahmesohl, Sebastian Nowak as well as to Kilian Bizer, Carlo Carraro, Frank Convery, Hans Nutzinger, Peter Weise, Taishi Sugiyama, Stefan Zundel.

References

Ahrens, J., (2002): Governance and Economic development. A Comparative Institutional Approach, Cheltenham/Northampton (Edward Elgar).

Ayres, I.; Braithwaite, J. (1992): Responsive Regulation. Transcending the Deregulation Debate, Oxford (Oxford University Press).

Backhaus, J. (1999): *The Law and Economics of Environmental Taxation: When Should the Ecotax Kick in?* International Review of Law and Economics, Vol. 19, pp. 117–134.

Bleischwitz, R. (2002): *Cognitive and Institutional Perspectives of Eco-Efficiency. A New Research Landscape towards Factor Four*, WI-Paper 123. In: Ecological Economics (in print).

Bringezu, S. (2002): *Towards Sustainable Resource Management in the European Union,* WI-paper No. 121.

Buchanan, J. M.; Musgrave, R. A. (1999): *Public Finance and Public Choice. Two Contrasting Visions of the State*, Cambridge; London (MIT Press).

Cashore, B. (2002): *Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority.* Governance: An International Journal of Policy, Administrations, and Institutions, Vol. 15, No. 4, pp. 503–529.

Dixit, A. K. (2000): *The Making of Economic Policy. A Transaction-Cost Perspective*, Cambridge (MIT Press).

Dror, Y. (2001): *The Capacity to Govern. A Report to the Club of Rome*.

De Soto, H. (2002): *The Mystery of Capital*, Bantam Press.

Freeman, C. (1998): *The Economics of Technical Change*, in: Archibugie, D.; Michie, J. (Eds.), Trade, Growth and Technical Change, Cambridge, pp. 16–54.

Grossekettler, H. (1997): *Die Wirtschaftsordnung als Gestaltungsaufgabe. Entwicklungsgeschiochte und Entwicklungsperpektiven des Ordoliberalismus nach 50 Jahren Sozialer Marktwirtschaft*, Münster (Lit Verlag).

Haufler, V. (2001): *A Public Role for the Private Sector. Industry Self-Regulation in a Global Economy*, Washington D.C. (Carnegie Endowment).

Héritier, A. (Ed.) (2002): *Common Goods. Reinventing European and International Governance*, London et al. (Rowman & Littlefield Publ.)

Hinterberger, F. / Luks, F. / Stewen, M. / v.d.Straaten, J. (2000): *Environmental Policy in a Complex World.* International Journal of Sustainable Development, Vol. 3, No. 3, pp. 276–296.

Kaul, I.; Grunberg, I.; Stern, M. (Eds) (1999): *Global Public Goods. International Cooperation in the 21st Century*, New York et al. (UNDP Press).

Langlois, R. N.; Robertson, P. L. (1995): *Firms, Markets, and Economic Change: A Dynamic Theory of Business Institutions*, London (Routledge).

Leonard-Barton, D. (1995): *Wellsprings of Knowledge: Building and Sustaining the Sources of Innovation*, Boston (Harvard Business School Press).

Loasby, B. (2001): *Cognition, Imagination and Institutions in Demand Creation*. Journal of Evolutionary Economics 11, pp. 7–21.

Maddison, A. (1995): *Monitoring the World Economy 11820 – 1992*, Paris (OECD).

Majone, G. (1998): *From the Positive to the Regulatory State: Causes and Consequences of Changes in the Mode of Governance*. Journal of Public Policy, Vol. 17, Part 2, pp. 139–167.

March, J.G. (1999): *The Pursuit of Organizational Intelligence*, Oxford (Blackwell).

Matthews, E., Amann, C., Bringezu, S. et al. (2000*): The Weight of Nations* — Material Outflows of Industrial Economies, Word Resources Institute et al.: Washington.

Metcalfe, J. S. (2001): *Institutions and Progress,* Industrial and Corporate Change, Vol. 10, No. 3, pp. 561–586.

Mueller, D.C. (1997[2]): Public Choice II, Cambridge (Cambridge University Press).

Nelson, R. (2002): *The Problem of Market Bias in Modern Capitalist Economies*. Industrial and Corporate Change, Vol. 11, No. 2, pp. 207–244.

Nonaka, I.; Toyama, R. (2002): *A Firm as a Dialectical Being: Towards a Dynamic Theory of a Firm*, Industrial and Corporate Change, Vol. 11, No. 5, pp. 995–1009.

Nonet, Ph.; Selznick, Ph. (1978): *Law and Society in Transition – Towards Responsive Law*, New York (Harper & Row).

North, D.C. (1990): *Institutions, Institutional Change and Economic Performance*, Cambridge.

Olson, M. (1965): *The Logic of Collective Action*, Cambridge (Harvard University Press).

Olson, M. (1982): *The Rise and Decline of Nations*, New Haven /London (Yale University Press).

Olson, M. (1996): *Big Bills Left on the Sidewalk: Why Some Nations are Rich, and Others Poor*. Journal of Economic Perspectives, Vol. 10, No. 2, pp. 3–24.

Ostrom, E. (1998): *A Behavioural Approach to the Rational Choice Theory of Collective Action*. American Political Science Review, Vol. 92, No. 1, pp. 1–22.

Ostrom, E. et al. (1999): *Revisiting the Commons: Local Lessons, Global Challenges*, Science, Vol. 284, 9. April, pp. 278–282.

Ostrom, E. (2000): *Collective Action and the Evolution of Social Norms*. Journal of Economic Perspectives, Vol. 14, No. 3, pp. 137–158.

Rodrik, D. (2000): *Institutions for High-Quality Growth: What they are and How to Acquire Them*. Studies in Comparative International Development, Fall 2000, Vol. 35, No. 3, pp. 3–31.

Rosenberg, N. (1994): *Exploring the Black Box. Technology, Economics, and History*, Cambridge (Cambridge University Press).

Sabatier, P. (Ed.) (1999): Theories of the Policy Process Boulder (Westview Press).

Shleifer, A. (1998): State versus Private Ownership. Journal of Economic Perspectives, Vol. 12, No. 4, pp. 133–150.

Stiglitz, J. (1998): *The private use of public interests: Incentives and institution.* Journal of Economic Perspectives 12 (2), pp. 3–21.

Stiglitz, J. (2000[3]) *Economics of the Public Sector*, New York; London (Norton & Company).

Wegner, G. (1997): *Economic policy from an evolutionary perspective: A new approach*. Journal of Institutional and Theoretical Economics (JITE), 153 (3), pp. 485–509.

Weizsäcker, E.U.; Lovins, A.; Lovins, H. (1997): *Factor Four: Doubling Wealth—Halving Resource Use*, London (Earthscan).

Williamson, O.E. (1999): *Strategy Research: Governance and Competence Perspectives*. Strategic Management Journal, Vol. 20, H. 12, pp. 1087–1108.

Witt, U. (2001): *Learning to Consume – A Theory of Wants and the Growth of Demand*. Journal of Evolutionary Economics, Vol. 11, No. 1, pp. 23–36.

Yergen, D.; Stanislaw, J. (1998): *The Commanding Height*, New York (Simon and Schuster).

Young, O. (1999): *Governance in World Affairs*, Ithaca and London (Cornell University Press).

Walker, W. (2000): *Entrapment in Large Technological Systems: Institutional commitment and Power Relations*. Research Policy 29, pp. 833–846.